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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,051	06/01/2001	Carl Frederick Behr	38-21(52258)B	3101

27161 7590 01/13/2003

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ST. LOUIS, MO 63167

EXAMINER

KRUSE, DAVID H

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 01/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

File Copy

Office Action Summary

Application No.

09/872,051

Applicant(s)

BEHR ET AL.

Examiner

David H Kruse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 6-14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-5 and 15 in Paper No. 4, is acknowledged. The traversal is on the ground(s) that it would not create an undue burden on the Examiner to conduct a search encompassing all of the claims (page 3, 1st paragraph of the Response). In addition, Applicant argues that the corn plant¹ described in claim[s] 7, 8 and 16 are identical to the deposited corn seed and that the remaining claims are directed to DNA molecules described in SEQ ID NOs: 7-12 and are specifically contained in the deposited corn plants and to method for detecting these DNA molecules (page 3, 2nd paragraph of the Response). This is not found persuasive because claims 7 and 8 are directed to pairs of primers or probes and claim 16 is directed to a method of using said pairs. In addition, the corn plant of claim 10 can contain a different DNA construct than that of claim 1 and produce an amplicon using the listed DNA molecules.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 6-14 and 16 are withdrawn from further consideration pursuant to 37 CFR § 1.142(b), as being drawn to nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 4.

3. This application contains claims 6-14 and 16 drawn to an invention nonelected with traverse in Paper No. 4. A complete reply to the final rejection must include

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cancellation of nonelected claims or other appropriate action (37 CFR § 1.144) See MPEP § 821.01.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR § 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

5. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. § 119(e) as follows: An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)). In the instant specification, this information is found on page 7 and not in the first sentence of the specification. Appropriate correction is required.

Drawings

6. The Draftsman has approved the drawing.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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8. Claim 5 is rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention appears to employ novel plants. Since the plant is essential to the claimed invention it must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. If the plant is not so obtainable or available, the requirements of 35 USC § 112 may be satisfied by a deposit of the plant. A deposit of 2500 seeds of each of the claimed embodiments is considered sufficient to ensure public availability. The specification does not disclose a repeatable process to obtain the plant and it is not apparent if the plant is readily available to the public. It is noted that applicants have deposited the plant but there is no indication in the specification as to public availability.

Because the deposit was made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty **and that all restrictions imposed by the depositor on the availability to the public of the deposited material will be irrevocably removed upon the granting of the patent**, would satisfy the deposit requirement made herein and obviate this rejection (see 37 CFR § 1.808).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spencer *et al* (U.S. Patent 6,040,497, filed 3 April 1997) and Brown *et al* (U.S. Patent 5,424,412) in view of Kakefunda *et al* (U.S. Patent 5,853,973).

Spencer teaches an expression cassette comprising in operable linkage a rice actin 1 promoter; a rice actin 1 intron; a chloroplast transit peptide encoding DNA molecule; a glyphosate tolerant EPSPS encoding DNA molecule; and a translational terminator DNA molecule in Figure 3. Spencer teaches a glyphosate resistant transgenic corn plant comprising said expression cassette in claim 1. Spencer also teaches that the *aroA* EPSPS gene from *Salmonella typhimurium* that is resistant to glyphosate can be used to transform corn plants (see column 26, lines 43-48).

Spencer does not specifically teach a DNA construct comprising Applicant's second expression cassette, or an expression cassette comprising an ARG_{TU}.*aroA*:CP4 DNA molecule.

Brown teaches an expression cassette comprising in operable linkage a CaMV 35S promoter; a Hsp70 intron; a chloroplast transit peptide encoding DNA molecule; a glyphosate tolerant EPSPS encoding DNA molecule that is the CP4 EPSPS; and a

transcriptional terminator DNA molecule at Figure 27. Brown also teaches transforming corn cells with the taught expression cassette (see column 28, Example 15).

Brown does not specifically teach a DNA construct comprising Applicant's first expression cassette.

Takefunda teaches that herbicide resistant genes can be transformed into crop species in single or multiple copies to confer herbicide resistance (column 20, lines 47-50).

Hence, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of Applicant's invention to use the teachings of Spencer and Brown to transform a corn cell or plant with a DNA construct functionally combining the expression cassette of Spencer with the expression cassette of Brown to produce a glyphosate tolerant corn plant. Spencer motivates one of ordinary skill in the art to substitute the tolerant EPSPS encoding DNA molecule from corn with a bacterial *aroA* EPSPS gene that is tolerant to glyphosate, such as the *AGRTU.aroA:CP4* from *Agrobacterium tumefaciens* taught by Brown. Takefunda teaches that one of ordinary skill in the art at the time of Applicant's invention could increase herbicide resistance in a transformed crop plant, such as corn, by transforming said plant with multiple copies of an herbicide resistance gene. Given the success of both Spencer and Brown in producing a glyphosate resistant corn cell or plant with an expression cassette comprising a single glyphosate EPSPS encoding DNA molecule, and the teachings of Takefunda that one of ordinary skill in the art could expect better herbicide resistance

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by transforming a plant with multiple copies of an herbicide resistance gene, one of ordinary skill in the art would have had a reasonable expectation of success.

Conclusion

11. Claim 5 appears to be free of the prior art, which neither teaches nor fairly suggests the corn plant deposited as ATCC accession number PTS-2478.

12. No claims are allowed.

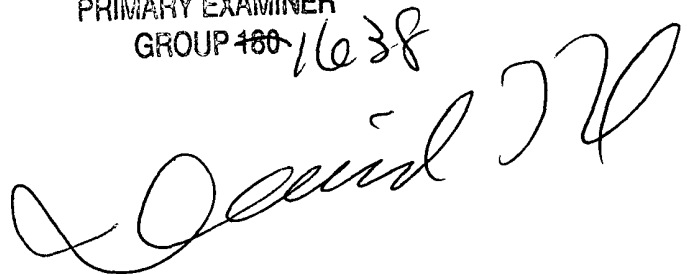
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 308-0196.

David H. Kruse, Ph.D.
9 January 2003

DAVID T. FOX
PRIMARY EXAMINER
GROUP 1638

A handwritten signature in black ink, appearing to read "David T. Fox", is written over the printed name and group number.